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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,087	06/26/2008	Daniel Husler	WLL-16859	3933
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RANKIN, HILL & CLARK LLP			AZIZ, KEITH T	
38210 Glenn Avenue				
WILLOUGHBY, OH 44094-7808			ART UNIT	PAPER NUMBER
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			12/24/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/599,087	HUSLER, DANIEL	
	<b>Examiner</b>	<b>Art Unit</b>	
	KEITH T. AZIZ	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 September 2006 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \*    c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date ____ .	6) <input type="checkbox"/> Other: ____ .

**DETAILED ACTION**

1. Claims 1-20 are pending as presented on 8/03/2009, claims 21-26 having been cancelled previously.
2. The rejection of claims 1-4, 6-9, 11, and 15 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, in view of Reetz, further in view of Williams, and further in view of von Bonin and Olsson is withdrawn.
3. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and further in view of Valyi is withdrawn.
4. The rejection of claims 10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and von Bonin, and further in view of Wytkin and Lochner is withdrawn.
5. The rejection of claims 13-14 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and von Bonin, and further in view of Arai is withdrawn.
6. The rejection of claims 16-17 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and von Bonin, further in view of Gallagher is withdrawn.
7. The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and von Bonin, further in view of Weberg is withdrawn.
8. The rejection of claims 19-20 under 35 U.S.C. 103(a) as being unpatentable over Holtzberg, Reetz, Williams, and von Bonin, further in view of Renard and Shaftingen is withdrawn.

***Response to Amendment and Arguments***

9. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 1-4, 6-9, 11, and 15 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

10. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 5 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

11. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 10 and 12 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

12. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 13-14 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

13. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 16-17 under 35 U.S.C. 103(a) have been fully considered

and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

14. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 18 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

15. Applicant's arguments, see applicant's response, filed 8/03/2009, with respect to the rejection(s) of claim(s) 19-20 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as is seen below.

#### ***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 1-20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term 'thin' is a relative term, and can define any width for the wall of the metallic shell mold.

***Claim Rejections - 35 USC § 103***

18. Claims 1-3, 8-9, and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2002/0038923 (Lenherr hereafter), in view of Reetz, and further in view of Williams.

Lenherr teaches a process for manufacturing components of fibre-reinforced plastics (see title and abstract). Lenherr teaches that the mold is a shell mold (see paragraph [0035]) with integrated heating means (see paragraph [0029]), that the shell may be made of several different metal alloys (see paragraph [0035]). Lenherr further teaches that flow forming may occur when the mold is closed (see paragraph [0026]). Lenher also teaches that a negative pressure may be generated within the mold cavity to improve the flow of resin (see paragraph [0049]).

Reetz discloses a method for forming thermoactive binder composites. Reetz teaches a means for heating and cooling molds (Abstract), as well as the process of heating shell molds up with tempering means to above the melting point of the material being injected (Abstract), heating while closing the molds under pressure (Paragraph [0075]), and cooling down the inserted material under pressure (Abstract).

Reetz and Lenherr are combinable because they are concerned with a similar technical field, namely the molding of thermoplastic materials. It would have been obvious to one of ordinary skill in the art at the time of invention to include the processes of Reetz in the process of Lenherr. The rationale to do so would have would have been the motivation provided by the teaching of Reetz that the application of heat softens the thermoplastic and makes it easier to compress (paragraph [0004]).

Reetz does not explicitly disclose a metal mold, a centering portion, or an air-tight compensating seal.

Williams discloses a method for making orthotic devices from thermoplastic materials. Wilson teaches a centering portion (paragraph [0068]), and an adjustable stop collar used to form an air tight seal in a molding apparatus with an upper and lower component (paragraph [0036], and items 70 and 80 in Figure 2). This adjustable seal can be used to compensate for any movement when the two mold portions are joined, in a manner identical to a compensating seal, as required by claim 1. Williams and Lenherr are combinable because they are concerned with a similar technical field, namely molding thermoplastic materials. It would have been obvious to one of ordinary skill in the art to use the processes of Williams in the process of Lenherr. The rationale to do so would have been the motivation provided by the teaching of Williams that having an adjustable seal helps to easily stabilize the assembly (See paragraph [0059]). Also, an adjustable seal can allow for a variety of pressures to be utilized in compression molding, and can also accommodate interchangeable molds (paragraph [0058]).

With regards to claim 2, Reetz teaches that the mold is mounted to a frame that is driven by a hydraulic cylinder (paragraph [0091] and Figure 2).

It would have been obvious to one of ordinary skill in the art to incorporate the hydraulic cylinder of Reetz into the process of Lenherr. The rationale would have been the motivation provided by the teaching of Reetz that pressing the softened or melted

thermoplastic material into the desired shape can be achieved through applying external pressure to the mold cavity (paragraph [0091]).

With regards to claim 3, Reetz teaches that the mold is mounted to a frame that is driven by a hydraulic cylinder (paragraph [0091] and Figure 2).

It would have been obvious to one of ordinary skill in the art to combine the external pressure applied by Reetz in the process of Lenherr. The rationale would have been the motivation provided by the teaching of Olsson that applying pressure to a softened or melted thermoplastic material causes it to coalesce into a specific body (Abstract). Olsson further teaches that hydraulic force and compressed air are known to be equivalent (paragraph [0014]).

With regards to claim 8, Reetz teaches different zones, including a containment area defined by a containment shell (see item 68 in Figure 2), a compression area (item 66 of Figure 2), and a mold area (item 56 in Figure 2). It would have been obvious to one of ordinary skill in the art at the time of invention to include the zones and containment area of Reetz in the process of Lenherr. The rationale to do so would have been the common sense that a zone is understood in the art to represent a region or area without having further distinction; it is known in the art that all molding processes can be considered to have 'zones', as required by claim 8.

With regards to claim 9, Lenherr teaches that the mold may be made of nickel (see paragraph [0035]).

With regards to claim 11, Reetz teaches that the cooling means utilizes a liquid medium that travels through channels to cool the upper and lower mold (Paragraph

[0104]). It would have been obvious to one of ordinary skill in the art at the time of invention to include the processes of Reetz in the process of Lenherr. The rationale to do so would have been the motivation provided by the teaching that more controlled cooling for the thermoplastic material in the mold reduces structural deformities, such as cracks, and improves the structural integrity of the molded object.

19. Claims 4, 6-7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Holtzberg.

Lenherr, Reetz, and Williams teach the process according to claim 1.

Lenherr, Reetz, and Williams do not explicitly teach a retention zone, break outs, or that differing materials are utilized in the mold.

Holtzberg teaches an edge of the mold cavity that comprises a retention zone for the molten thermoplastic material (Column 16, lines 10-18, as well as item 203a of Figure 8B). Holtzberg and Lenherr are combinable because they are concerned with a similar technical field, namely molding thermoplastic materials. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the process of Holtzberg with the process of Lenherr. The rationale to do so would have been the motivation to improve the performance of molding processes (see lines 23-32 of column 5).

With regard to claim 6, Holtzberg teaches a mold with 'break-outs' (See Figure 9F).

With regard to claim 7, Holtzberg teaches a mold that has a fixed edge part (item 18b of Figure 1D, as well as item 10a of Figure 1B), a mold part (item 18 of Figure 1B), and a defined mold cavity (Column 2, lines 9-13).

With regard to claim 15, Holtzberg further teaches that woven chopped random non-woven fibers may be added in selected regions, in a local manner (Column 11, lines 12-14).

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Valyi.

Lenherr, Reetz, and Williams teach the process of claim 1 as described above.

Lenherr, Reetz, and Williams do not explicitly teach vacuum channels that are present throughout the mold.

Valyi teaches a method for preparing a molded article, where the vacuum force is applied through vacuum channels that are conducted throughout the mold (Paragraph [0043]). Valyi and Lenherr, Reetz, and Williams are combinable because they are concerned with a similar technical field, namely the molding of thermoplastic articles. It would have been obvious to one of ordinary skill in the art at the time of invention to include the vacuum channels of Valyi in the process of Lenherr. The rationale to do so would have been the motivation provided by the teaching to better retain the heated thermoplastic material in the desired conformation (Paragraph [0024]).

21. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Wytkin and Lochner.

Lenherr, Reetz, and Williams teach the processes as described above.

Lenherr, Reetz, and Williams do not explicitly teach that the heating means is attached to the mold through insulated electrical wires, and do not teach that the tempering means are directly integrated into the shell molds.

Wytkin discloses a multilayer mold apparatus and method for molding thermoplastic articles. Wytkin teaches the use of heating wires in a mold used to form thermoplastic materials, where the heating wires are integrally formed with the mold (Column 6, lines 53-65). Wytkin and Lenherr, Reetz, and Williams are combinable because they are concerned with a similar technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art at the time of invention to include the heating means as taught by Wytkin in the process of Lenherr. The rationale to do so would have been the motivation provided by the teaching by Wytkin that it is beneficial to ensure that the mold is of substantially uniform temperature (column 3, lines 21-27). Lochner teaches that uniform heating can help to prevent bubble formation while molding thermoplastic materials and that uniform heating can help to improve the structural integrity of the molded object (Paragraph [0006]).

In regards to claim 12, Lenherr, Reetz, and Williams do not explicitly teach that heating or cooling means are integrally formed with the mold.

Wytkin teaches the use of heating wires in a mold used to form thermoplastic materials, where the heating wires are integrally formed with the mold (Column 6, lines 53-65). Wytkin and Lenherr, Reetz, and Williams are combinable because they are concerned with a similar technical field, namely molding thermoplastic articles. It would

have been obvious to one of ordinary skill in the art at the time of invention to include the heating wires in an integral fashion as taught by Wytkin in the process of Lenherr. The rationale to do so is the common sense reasoning that to do so would reduce the amount of energy required to heat the mold, since it is common sense that conduction is a more efficient heating process than convection, and that through integrating the heating wires into the mold, heat transfer occurs through conduction. By integrating the heating wires into the mold, heat is transferred through conduction – as opposed to convection (which is how heat is transferred to molds placed in an oven).

22. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Arai.

Lenherr, Reetz, and Williams teach the processes as discussed above.

Lenherr, Reetz, and Williams do not explicitly disclose a locally differing tempering or a non-linear cooling down step.

Arai discloses a method for cooling molds. Arai teaches a method for the cooling of molds used in injection molding processes, where the cooling down step is non-linear and locally differing temperatures are evident (See Figures 54 and 14A-B). Arai and Holtzberg are combinable because they are concerned with a similar technical field, namely molding of thermoplastic materials. It would have been obvious to one of ordinary skill in the art to utilize the cooling method of Arai in the process of Lenherr. The rationale to do so would have been the motivation to avoid the formation of a recess in the finished article (Abstract). Also, it is known in the art that controlled

cooling reduces the likelihood of articles that do not have uniform density and can prevent cracking.

With regards to claim 14, Arai discloses a method for cooling molds. Arai teaches a method for the cooling of molds used in injection molding processes, where the cooling down step is non-linear and locally differing temperatures are evident (See Figures 54 and 14A-B). Arai and Lenherr are combinable because they are concerned with a similar technical field, namely molding of thermoplastic materials. It would have been obvious to one of ordinary skill in the art to utilize the cooling method of Arai in the process of Lenherr. The rationale to do so would have been the motivation to avoid the formation of a recess in the finished article (Abstract). Also, it is known in the art that controlled cooling reduces the likelihood of articles that do not have uniform density and can prevent cracking.

23. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Gallagher.

Lenherr, Reetz, and Williams teach the process as described above.

Lenherr, Reetz, and Williams do not explicitly disclose locally differing materials with different characteristics and shapes are inserted into the mold in defined position, or that additional layers are inserted into the shell molds, or that the materials inserted onto the surface are soft or elastic materials.

Gallagher teaches a method for molding a trim panel with integrally formed simulated leather appliqués. Gallagher teaches that urethane foam is molded onto the

surface of the shell, and that on the urethane foam, a cushion block is compression molded (Column 3, lines 40-43). The urethane foam and cushion block are additional surface layers, and urethane foam is known to be elastic and soft. Gallagher and Lenherr are combinable because both are concerned with a similar technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Gallagher in the process of Lenherr. The rationale to do so would have been the motivation to provide a specific texture and finish to the article (Abstract).

With regard to claim 17, Gallagher teaches a method for molding a trim panel with integrally formed simulated leather appliqués. Gallagher teaches that urethane foam is molded onto the surface of the shell, and that on the urethane foam, a cushion block is compression molded (Column 3, lines 40-43). The urethane foam and cushion block are additional surface layers, and urethane foam is known to be elastic and soft. Gallagher and Lenherr are combinable because both are concerned with a similar technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Gallagher in the process of Lenherr. The rationale to do so would have been the motivation to provide a specific texture and finish to the article (Abstract).

24. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Weberg. Lenherr, Reetz, and Williams teach the process as discussed above.

Lenherr, Reetz, and Williams do not explicitly teach an insert that is integrated into a mold body.

Weberg discloses a method for molding thermoset monomer compositions. Weberg teaches a method for encapsulating an insert within the mold in a manner that allows the insert to be integrated into the molded body (Paragraph [0031]). Weberg and Lenherr are combinable because they are concerned with a similar technical field, namely molding of thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Weberg in the process of Lenherr. The rationale to do so would have been the motivation to impart a desirable aesthetic to the mold (paragraph [0171]).

25. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenherr, Reetz, and Williams as applied to claim 1 above, and further in view of Renard and Shaftingen.

Lenherr, Reetz, and Williams teach the process as discussed above.

Lenherr, Reetz, and Williams do not explicitly teach that hollow bodies are formed, or that sealed gas cushions are inserted into the molds.

Renard discloses a production method for producing a hollow thermoplastic board. Renard teaches a hollow inner shell formed of thermoplastic resin (paragraph [0026]), and that sealed gas cushions of known composition are inserted into molds (paragraph [0042]). Renard teaches that the gas inserted can be helium, or air - which has a composition that is known in the art. Lenherr and Renard are combinable because they are concerned with a similar technical field, namely molding thermoplastic

articles. It would have been obvious to one of ordinary skill in the art to include the process of Renard in the process of Lenherr. The rationale to do so would have been the motivation to form a large article without requiring excess material, and reduce the weight for a given volume (and thereby manipulate density). It is known in the art that a hollow body will have a lower density than a solid body when the same materials are used.

Shaftingen discloses a process for manufacturing hollow plastic bodies. Shaftingen teaches forming a hollow article (paragraph [0046]), through the injection of air into a sealed cushion (paragraph [0046]). Again, air has a composition that is known in the art. Lenherr and Shaftingen are combinable because they are concerned with a similar technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Shaftingen in the process of Lenherr. The rationale to do so would have been the motivation to form a large article without requiring excess material, and reduce the weight for a given volume (and thereby manipulate density). It is known in the art that a hollow body will have a lower density than a solid body when the same materials are used.

With regard to claim 20, Renard discloses a production method for producing a hollow thermoplastic board. Renard teaches a hollow inner shell formed of thermoplastic resin (paragraph [0026]), and that sealed gas cushions of known composition are inserted into molds (paragraph [0042]). Renard teaches that the gas inserted can be helium, or air - which has a composition that is known in the art. Lenherr and Renard are combinable because they are concerned with a similar

technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Renard in the process of Lenherr. The rationale to do so would have been the motivation to form a large article without requiring excess material, and reduce the weight for a given volume (and thereby manipulate density). It is known in the art that a hollow body will have a lower density than a solid body when the same materials are used.

Shaftingen discloses a process for manufacturing hollow plastic bodies. Shaftingen teaches forming a hollow article (paragraph [0046]), through the injection of air into a sealed cushion (paragraph [0046]). Again, air has a composition that is known in the art. Lenherr and Shaftingen are combinable because they are concerned with a similar technical field, namely molding thermoplastic articles. It would have been obvious to one of ordinary skill in the art to include the process of Shaftingen in the process of Lenherr. The rationale to do so would have been the motivation to form a large article without requiring excess material, and reduce the weight for a given volume (and thereby manipulate density). It is known in the art that a hollow body will have a lower density than a solid body when the same materials are used.

***Conclusion***

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to show the state of the art with respect to shell molds.

U.S. Patent Application 2003/0091679 to Aramburu, drawn to a shell mould to manufacture windmill blades and a pattern so constituted.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH T. AZIZ whose telephone number is (571)270-7658. The examiner can normally be reached on Monday through Thursday 8:00am-6:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna I. Wyrozebski can be reached on (571)272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KTA/

/KHANH NGUYEN/  
Primary Examiner, Art Unit 1791